



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR ELEVATED POTABLE WATER TANK



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

PEDCO

120

ME

DT

0011

D04

شماره صفحه: ۱ از ۶

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR ELEVATED POTABLE WATER TANK

نگهداشت و افزایش تولید میدان نفتی بینک

D04	OCT.2024	AFC	V.Amjadi	M.Fakharian	M.Sadeghian	
D03	JUN.2024	IFA	V.Amjadi	M.Fakharian	M.Sadeghian	
D02	NOV.2022	IFA	H.Adineh	M.Fakharian	M. Mehrshad	
D01	DEC.2021	IFC	H.Adineh	M.Fakharian	M. Mehrshad	
D00	NOV.2021	IFC	H.Adineh	M.Fakharian	M. Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 1

CLIENT Doc. Number: F0Z-708842

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For Purchase

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved



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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D04	0011	DT	ME	120	PEDCO	GCS	BK

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REVISION RECORD SHEET

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General Notes

1. THE ASTERISK * DENOTES INFORMATION AND/OR CONFIRMATION REQUIRED FROM VENDOR. THE VENDOR SHALL BE FULLY RESPONSIBLE FOR DESIGN AND SUPPLY OF THE TANK. THE TANK SHALL BE SUPPLIED IN ACCORDANCE WITH PROJECT 'SPECIFICATION FOR STORAGE TANK', DOC. NO. BK-GNRL-PEDCO-000-ME-SP-0002. THE MANUFACTURER SHALL CALCULATE THICKNESS AND LOADS OF THE TANK.
2. ALL MATERIAL, THICKNESS, CORROSION ALLOWANCE, DIMENSIONS AND THEIR SUITABILITY FOR THE FLUID AT DESIGN CONDITION TO BE CONFIRMED BY VENDOR.
3. ALL MATERIAL SHALL BE NEW AND UNUSED.
4. RF: RAISED FACE, SO: SLIP ON, WN: WELD NECK.
5. ACC. TO ANSI B16.5. & B16.47 SERIE A.
6. BOLT HOLES FOR FLANGES SHALL STRADDLE TANK NATURAL CENTRE LINES FOR HORIZONTAL NOZZLES.
7. Deleted.
8. VENDOR SHALL SUPPLY DETAILS OF ALL WELDING CONNECTIONS AND GIVE GENERAL SPECIFICATION OF USED MATERIALS.
9. TANK SHALL BE THOROUGHLY CLEANED OUTSIDE AND INSIDE AND FREE FROM RUST, SLAG, SCALE, WELD SPATTER & FOREIGN MATTER.
10. ALL REINFORCING PADS SHALL HAVE ONE NPT 6mm TELL TALE HOLE.
11. SHALL BE HOT DIP GALVANIZED PER 'IPS-E-TP-100', SYSTEM '8C' OF TABLE '2' (WITH MIN. DFT 140 MIC.).
12. LIQUID LEVELS ARE FROM BELOW OF THE TANK FIRST SHELL COURSE PLATE.
13. INLET NOZZLE SHALL BE COMPLETED WITH INTERNAL LONG RADIUS ELBOW, DIP PIPE AND WEAR PLATE UNDER PIPE. SYPHON BREKER HOLE IS REQUIRED AT BELOW.
14. ALL INLET AND OUTLET CONNECTIONS TO TANK SHALL BE ISOLATED.
15. SITE CONDITION SUCH AS SEISMIC ZONE, SOIL PROFILE, WIND VELOCITY, WIND EXPOSURE SHALL AS PER PROJECT 'PROCESS BASIS OF DESIGN' DOCUMENT No. BK-GNRL-PEDCO-000-PR-DB-0001.
16. ACCESS LADDER & PLATFORM TO BE CONSIDERED.
17. SPECIFIED ACCESSORIES AND ATTACHMENTS SHALL BE SUPPLIED BY VENDOR.
18. FOR INSTRUMENTS INSTALLATION ON THE STAND PIPE, 2", #300 FLANGES SHALL BE CONSIDERED AS PER BK-GNRL-PEDCO-000-IN-SP-0001 .
19. INSULATION SHALL BE AS PER PROJECT 'SPECIFICATION FOR INSULATION', DOCUMENT NO "BK-GENRAL-PEDCO-000-PI-SP-0019".
20. FIRE PROOFING REQUIREMENT WILL BE SPECIFIED AS PER RESULT OF FIRE PROOFING ZONE LAYOUT.
21. FOR STANDARD DETAIL OF EARTH LUG EXECUTION REFER TO THE PROJECT "STANDARD DETAIL DRAWING FOR STORAGE TANKS DOC. NO. "BK-GNRL-PEDCO-000-ME-DW-0002" AND PROVIDE MINIMUM TWO EARTHING TERMINALS AND TWO CABLES PER TANK.
22. LOCATION OF CONNECTIONS SHALL BE FINALIZED LATTER.
23. MANWAYS SHALL BE SUPPLIED COMPLETE WITH BLIND FLANGE, EXTERNAL GRAB HANDLES, INTERNAL GRAB HANDLE AND LADDER RUNGS, NUTS, BOLTING, GASKET AND PROOF LOAD TEST DAVITS. DAVITS SHALL BE PROOF LOAD TESTED ON THE VESSELS TO 1.5 X SAFE WORKING LOAD (SWL) AND SHALL BE MARKED ACCORDINGLY.
24. VENDOR SHALL SUPPLY 24. VENDOR SHALL SUPPLY FOLLOWING ITEMS AS SPARE PARTS:
TWO YEARS SPARE PARTS & TWO YEARS SPARE PARTS & COMMISSIONING SPARE PARTS SHALL BE CONSIDERED AS PER DOCUMENT NO. E&C-QC-SP-1.
25. ALL DIMENSIONS ARE IN "MM" UNLESS OTHERWISE SPECIFIED.
26. VENDOR SHALL CALCULATED THE MECHANICAL CALCULATION AND SUBMITTED THE CALCULATION BOOK FOR TANK.
27. ELEVATED POTABLE WATER TANK GEOMETRY SHALL BE IN ACCORDANCE WITH IPS STANDARD DRAWING NO. IPS-D-CE-412.



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Mech. Data Sheets for Elevated Potable Water Tank (TK-2209) / Sheet 4 of 6

Rev.	GENERAL DATA	
	General Information	
1	PROJECT :	COMPANY : NISOC
2	LOCATION : BINAK, 20 km NORTHWEST of GENAVEH CITY	ALTITUDE :
3	ITEM NO. : TK-2209	QUANTITY : 1 SET
4	FLUID : POTABLE WATER	SERVICE : STORAGE TANK
5	Process Data	
6	NOMINAL / WORKING CAPACITY 25 / 20 (m ³)	OPERATING TEMPERATURE AMB. (°C)
7	DIMENSION (INTERNAL DIA./ HEIGHT) 3500 x 2600 (mm)	OPERATING PRESSURE ATM. (barg)
8	ELEVATION (L. L.-OUTLET FLANGE C.L.) 20000 (m)	
9	H.L.L. (NOTE 12) 2250 (mm)	
10	DENSITY 1000 (kg/m ³)	
11	Design Data	
12	INSTALLATION POSITION : HORIZONTAL VERTICAL YES	TANK TYPE: CYLINDRICAL SELF SUPPORTED CONE ROOF
13	SHELL / BOTTOM / ROOF THICKNESS * (NOTE 1) (mm)	ROOF SLOPE 1/5
14	DESIGN TEMPERATURE 85 (°C)	TEST PRESS. ATM + FULL OF WATER (barg)
15	DESIGN PRESSURE ATM + FULL OF WATER (barg)	WIND DESIGN (ASCE7-10) WIND SPEED 232 (Km/hr)
16	MAX. ALLOWABLE WORKING PRESSURE (1) (barg)	MIN./MAX. RECORDED AMB. TEMPERATURE 5 / 50 (°C)
17	SEISMIC DESIGN ASCE 7-10 SITE CLASS: D IMPORT. FACTOR: 1.25	EARTHING CONTINUITY YES
18	Fa: 1 Fv: 1.33 Ss: 1.125 S1: 0.46	INSULATION No
19	JOINT EFFICIENCY 0.85	
20	FLANGE FACE FINISH Ra 3.2 to 6.4 µm	
21	CORROSION ALLOWANCE SHEEL & BOTTOM / ROOF / STRUCTURE	1.6 / 1.6 / 1.6 (mm)
22	Reference Codes and the Project Documents	
23	DESIGN CODE	AWWA D-100 , IPS-G-ME-100
24	SPECIFICATION FOR ATMOSPHERIC ABOVE GROUND WELDED STEEL TANKS	BK-GNRAL-PEDCO-000-ME-SP-0002
25	STANDARD DETAILS DRAWINGS FOR STORAGE TANKS	BK-GNRAL-PEDCO-000-ME-DW-0002
26	PROCESS BASIS OF DESIGN	BK-GNRAL-PEDCO-000-PR-DB-0001
27	STRUCTURAL DESIGN CRITERIA	BK-GNRAL-PEDCO-000-ST-DC-0002
28	SPECIFICATION FOR INSULATION	BK-GENRAL-PEDCO-000-PI-SP-0019
29	SPECIFICATION FOR PAINTING	BK-GENRAL-PEDCO-000-PI-SP-0006
30	P&ID	BK-GCS-PEDCO-120-PR-PI-0024 (11)
31	IPS Standard Drawing	IPS-D-CE-412
32	Materials	
33	SHELL/BOTTOM/ROOF : A-283 Gr.C + Lining food grade (11)	REINFORCING PAD: A-283 Gr.C
34	NOZZLE NECK PIPES : A-106 Gr. B-Galvanaized	INSUL. SUPPORT CLIP: A-283 Gr.C
35	FLANGES : A-105-Galvanaized	INTERNAL LADDER: A-36 + Lining food grade (NOTE 11)
36	FITTINGS : A-234 Gr. WPB-Galvanaized	EXTERNAL SUPPORTS: A-283 Gr.C
37	GASKETS : NON-ASBESTOS , FLAT & GRAPHITE FILLED	EXTERNAL BOLTS / NUTS: A-193 Gr. B7 / SA-194 Gr. 2H
38	ELECTRODES : ACC. TO AWS	EARTHING LUG / PLUG: S.S.
39	EXT. STRUCTURAL PIPE : API 5L Gr. B / A53 Gr.B	NAME PLATE/BACKET: S.S. 316 / C.S.
40	CHECKERED PLATE : ST-37	BASE PLATE : ST-37
41	ANCHOR BOLT : A-307 Gr. B	INT. REMOV. WETTED PARTS: A-283 Gr.C + Lining food grade (NOTE 11)
42	Lining : P5 (Food Grade Epoxy)	
43	Surface Preparation & Coating	
44	TANK INTERIOR & EXTERIOR SURFACES	YES ; ACC. TO SPECIFICATION NO.BK-GNRAL-PEDCO-000-PI-SP-0006 & BK-GNRAL-PEDCO-000-PI-SP-0007 RESPECTIVELY.
45	RELATED SUPPORTS & STRUCTURES :	YES ; ACC. TO SPECIFICATIONS NO. BK-GNRAL-PEDCO-000-ST-DC-0001, BK-GNRAL-PEDCO-000-ST-SP-0003, BK-GNRAL-PEDCO-000-ST-SP-0005.
46	RISER PIPES(INLET, OUTLET,DRAIN & OVERFLOW),FLANGES & ELBOWS :	SHALL BE GALVANIZED C.S. (11)
47	ALL EXTERNAL BOLTS AND NUTS :	SHALL BE GALVANIZED C.S.(11)
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ACCESSORIES & NOZZLES LIST

Accessories & Attachments (Note 11, 17)

1	INTERNAL SUPPORTS	YES	INTERNAL SHOT -BLASTING	YES
2	INTERNAL STAIRS	YES	EXTERNAL SHOT -BLASTING	YES
3	SHOP ASSEMBLY	YES	CLEANING AND PAINTING	YES
4	EXTERNAL PIPING SUPPORT	YES	PICKLING AND PASSIVATION	NO
5	SUPPORTING	YES	BLIND FLANGES, GASKETS, BOLTING	YES
6	LADDER, PLATFORM AND CLIPS	YES	NAMEPLATE AND BRACKET	YES
7	INSULATION SUPPORTS	YES	LIFTING TRUNNION	NO
8	INSULATION	NO	LIFTING LUGS	YES
9	FIREPROOFING SUPPORT	NO	EARTHING LUG & PLUG	YES
10	VORTEX BREAKER		TAILING LUGS	NO

Nozzles List (Notes 1, 4, 5 & 26)*

Mark	Qty.	Description	Pipe			Flange			Proj. (mm)	Reinforcement		Remarks
			Size	Thk.(mm)	Sch.	Type	Rate.	Face		Thk.	O.D.	
A	1	Water Inlet	2"			WN	#150	RF	See dwg			
B1	1	Water Outlet	2"			WN	#150	RF	See dwg			
B2	1	Over Flow	2"			WN	#150	RF	See dwg			
M1	1	Manhole	24"			WN	#150	RF	2056			Note 23
L	1	Level Transmitter	2"			WN	#300	RF	1906			
D	1	Drain	2"			WN	#150	RF	1906			
V	1	Vent	2"			WN	#150	RF				With Wire Mesh Breather

Wind and Seismic Loads at Base (Note 1)

Load Condition	Empty Condition			Operating Condition			Testing Condition		
	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)
WIND									
SEISMIC									

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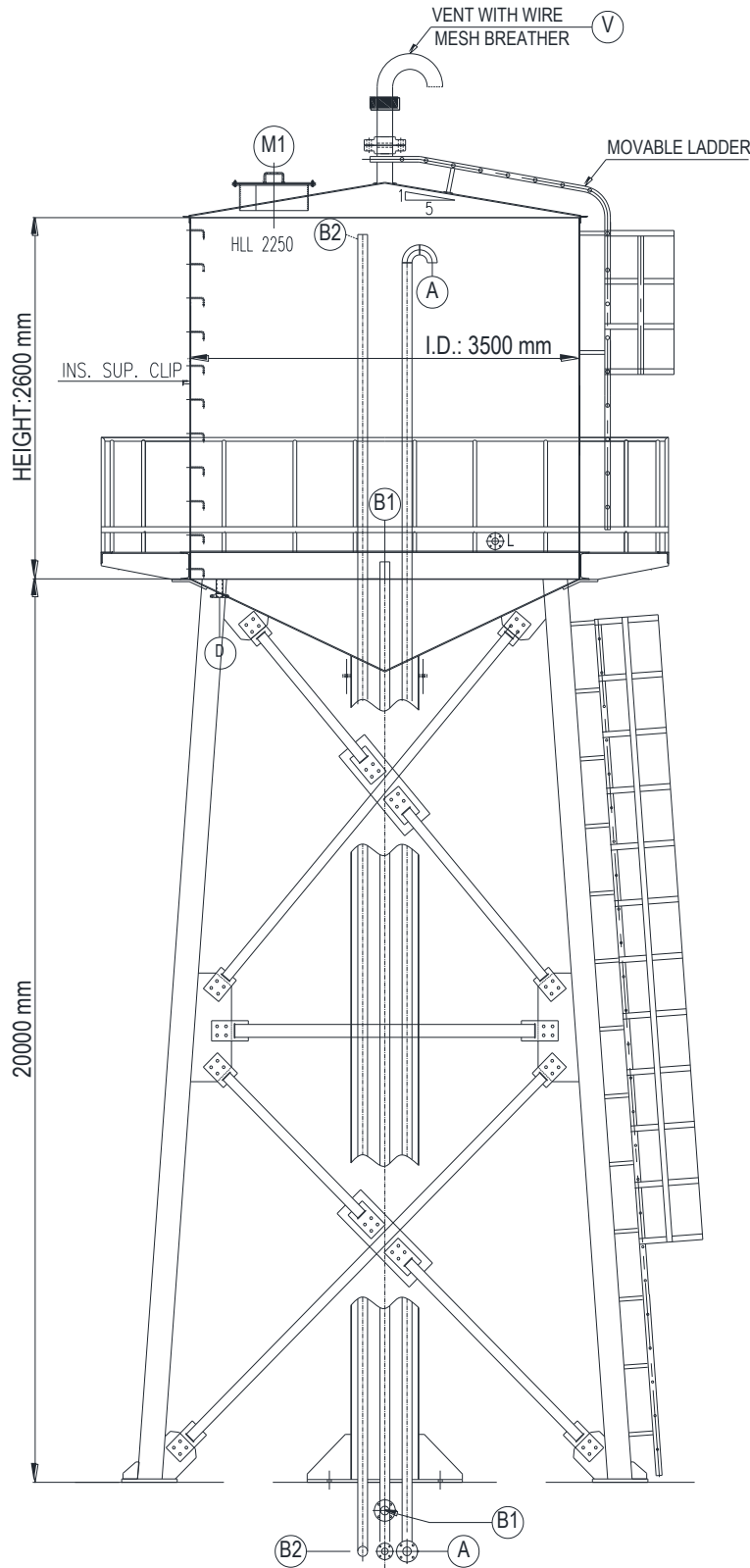
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Sketch



NOZZLES ORIENTATION AND ELEVATION WILL BE FINALIZED LATER.